

Remarks

Entry of the amendments, reconsideration of the application, as amended, and allowance of all pending claims are respectfully requested. Claims 1-27 remain pending.

In the Office Action, dated September 17, 2003, claims 1-3 are objected to because of an informality. In the above amendment, applicants have addressed this informality, and therefore, respectfully request withdrawal of the claim objection.

Further, claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ben-Shachar et al. (U.S. Patent No. 6,209,018) in view of White et al. (U.S. Patent No. 5,933,490). Applicants respectfully, but most strenuously, traverse this rejection for the reasons herein.

As one aspect of applicants' invention, applicants provide a lightweight connection management protocol that enables the client to connect to a server without using intermediaries and without having a single point of failure. For instance, an automatic reconnection procedure is provided which enables the client of a cluster computer environment that has an unacceptable connection with one server of a group of replicated servers to be reconnected with another server of the group. This reconnection does not require having communications protocol for the server.

In one particular example, applicants claim a method of managing connections between clients and servers of a distributed computing environment (e.g., independent claim 1). The method includes, for instance, determining, by a client of the distributed computing environment, that a server coupled to the client, via a communications protocol that lacks individualized time-outs for individual components of the distributed computing environment, is unavailable to process requests for the client, wherein the server is a member of a group of a plurality of replicated servers; and directly connecting, by the client, the client to another replicated server of the group, wherein servers of the group lack knowledge of application-level information of a communication session of the client. Thus, in applicants' claimed invention, the client directly connects itself to another replicated server of a group of replicated servers. There are no intermediaries between the client and server to perform the determining and the connection. Therefore, the protocol is lightweight, but due to replication, still avoids a single point of failure.

This is very different from the teachings of Ben-Shachar and White, either alone or in combination.

For example, in sharp contrast to applicants' claimed invention, Ben-Shachar uses intermediaries to connect to a server rather than allowing the client to perform the connection. This is described throughout Ben-Shachar. For example, in FIGs. 3 and 29, it is shown that service locators are used to locate a service on a given server. Further, Col. 28, lines 59-65 describe the use of the service locator to get to a server. Yet further, in Col. 31, lines 12-13, it states: "If not, the service proxy rebinds to another service locator...." Such description of a service locator being used to connect a client to a server is prevalent throughout Ben-Shachar.

Further, the Office Action specifically states, "Ben-Shachar does not explicitly teach that the connecting said client to another replicated server is performed directly by said client." Since Ben-Shachar fails to teach or suggest at least this aspect of applicants' claimed invention, White is relied upon. However, applicants respectfully submit that White does not overcome the deficiencies of Ben-Shachar.

White provides an overload protection for dial-up access to the internet, which uses a hybrid network including the internet and an intelligent switched telephone network. White states:

A service control point (SCP) in the intelligent telephone network monitors predetermined traffic criteria resulting from dial-up attempts to call the ISP. Threshold parameters are set in storage associated with the SCP, and at least certain of the measured criteria are substantially continually compared to one or more of these parameters. When one or more of the parameters is equaled or exceeded, the SCP causes redirection of calls for the first ISP to an Internet interface provided by an alternate access provider.
(Abstract)

For example, if a customer cannot get access to an ISP, the customer is re-routed by the SCP which uses an alternate route provider through the internet to the ISP (e.g., Col. 5, lines 38-55). Thus, in White, at least one intermediary is used to connect the customer to the ISP. There is no direct connection, as claimed by the applicants.

In support of the rejection, Col. 5, lines 38-48 are indicated. However, a careful reading of this section explains how an alternate route provider is used to reroute a caller via the internet to an otherwise inaccessible ISP. It is specifically stated in Col. 5, lines 44-47:

Certain ISP customers may desire such access because they prefer the software and user interface of the ISP to the software and user interface utilized in the facility provided by the alternate route provider.

Thus, the customer uses an alternate route provider to obtain access to the ISP via the internet. Further, as described above, the customer is re-routed by the SCP. Therefore, at least one intermediary is used to connect the customer to the ISP. This is very different from applicants' claimed invention in which there is no intermediary, but instead, a direct connection, by the client, of the client to another server. There is no description, teaching or suggestion in White of a client directly connecting itself to another server, as claimed by applicants. Instead, White specifically teaches against direct connection by requiring intermediaries to be used.

Since both Ben-Shachar and White fail to teach or suggest applicants' claimed element of directly connecting, by said client, said client to another replicated server of the group, applicants respectfully submit that their invention is patentable over the combination of Ben-Shachar and White. Thus, applicants respectfully request an indication of allowability for independent claims 1-3. The dependent claims are patentable for the same reasons as the independent claims, as well as for their own additional features.

For all of the above reasons, applicants respectfully request an indication of allowability for all pending claims.

Should the Examiner wish to discuss this case with applicants' attorney, please contact applicants' attorney at the below listed number.

Respectfully submitted,

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